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**UNITED STATES OF AMERICA.**

MARCH 1889

# PHOTOGRAPHY AT

A BRIEF AND  
COMPREHENSIVE TREATISE ON

# DRY PLATE PHOTOGRAPHY

WITH  
ILLUSTRATED  
CATALOGUE  
OF  
CAMERAS

Accessories  
Issued by



The BOSTON CAMERA CO.

36 India St BOSTON MASS.

# AMUSEMENT, INSTRUCTION, AND PROFIT.



In offering this little book to the public, it is our aim to show the extreme simplicity of the art of photography when followed in connection with the improved cameras and gelatine dry plates, and to describe a few of our leading styles of cameras, outfits, and accessories.

It is not within our province to enumerate here the thousand and one varieties of appliances, materials, and chemicals which are included in the stock of a Photography Supply House, the greater part of which are used only by professional photographers for gallery work, largely for old style apparatus, and are entirely unnecessary to the successful pursuit of that branch of the art to which we especially cater—Photography at Home.

We can, however, supply anything and everything that may be desired in photography goods, and if you do not find what you want, please ask for it.

We make no cry of "fraud" or "beware," as do some of our competitors, for though we know that there are some outfits on the market that are hardly as practical as those who offer them for sale seem to think, we believe that our line of trade is one that has not as yet been invaded by fraudulent concerns and catch-penny schemes.

We warrant all our goods in every way, and anything not satisfactory may be at once returned and will be taken back or exchanged.

Our prices will be found to be very low—lower than the lowest, as we offer our goods direct to the consumer, though they may be procured of our agents at the same prices.

The greatly increasing demand for photography goods has thus far justified us in our belief that it is to our best interest to adhere to the policy of large sales and small individual profits; and, soliciting a continuance of the patronage accorded us in the past, we subscribe ourselves,

Respectfully,

THE BOSTON CAMERA CO.

S. N. TURNER,

*General Manager.*

*Copyright, 1889, by the Boston Camera Co.*

# HOW I BECAME AN ARTIST.



**HY don't you try Amateur Photography?"**

I had just returned from a ten days' walking-trip up the beautiful Delaware River Valley. It had been a glorious outing, for I had wandered at my own sweet will, careless of everything but the passing hour. I had not set out to reach any particular place. I had no definite end to accomplish. Perhaps that was the reason I enjoyed it so much. It was the old savage nomadic spirit of some far-away ancestor that had cropped out

and for the moment crowded conventionality away. Even now as I sat in my humdrum office, the indistinguishable murmur of the woods was sounding in my ears, and I seemed to be looking again on Old Tammany, clad in his russet glories, with the silent river far below, and over all the misty blue of a September day. But how describe it to my friend? Had I been an artist, my sketchbook might have shown a little of what I could not tell. But the old saying, "poeta nascitur, non fit," was never more strikingly exemplified than in my case. All the drawing-masters in the world could not have made an artist out of me. Diligent practice might have turned me out a tolerable draughtsman, but the smell of the oil would have clung to me still. I had an instinctive appreciation of the true and beautiful; it was not my eye that was at fault but my hand that refused to do its part. Now, my friend is an artist on the staff of the *World* newspaper. Had he taken my trip he would have shown me a lot of pictures and had them to tell the story. But I never knew before how he produced them. Frankly, I envy him and he knows it.

He pulled at his long mustache and smiled as I concluded the account of my week's tramp with a vehement ejaculation of disgust at my inability to do justice to what I was trying to describe, and then said, in the opening words of this article: "Why don't you try amateur photography?"

"Photography," I echoed in surprise, while visions of infantile monstrosities in all stages of impossible attitudes, and numberless young ladies in sentimental poses against rustic arbor backgrounds, rose before me. "Surely you don't mean to say that the bad smells and dark rooms and business-like bustle of the ordinary photographic gallery can have anything to do with art. I have always thought that a photographer was an artist, on the same principle that a barber was a professor."

"That remark merely indicates your ignorance of the subject," said he. "Let

me tell you there is something more in photography than merely touching a spring or taking off a cap."

"But," I objected, "you don't expect me to carry around a photograph gallery on my back, do you? I only want amusement."

"Not so many years ago it would have been hard to answer your objection," said my friend; "but now you may take your whole outfit in one hand. The invention of the dry plate dispenses with three quarters of the work necessary by the old process and enables the amateur to do at once what required months, if not years, of study and apprenticeship under the old system. In every way too the results are superior and the dry process has come into almost universal use. You can now go out for a stroll with your portable camera in your hand and bring back your box of negatives, to be developed at your leisure. Negatives have been taken in the interior of Africa, transported thousands of miles, and the finished pictures made from them months afterwards."

"Certainly," said I, "this could not be possible by the ordinary process."

"No," he answered, "but it is now, owing to the discovery of the sensitive gelatine film. This invention has been practically utilized in the introduction of plates prepared with such a coating. They are called dry plates, to distinguish them from plates which must pass through the silver bath and be used wet. The poisonous chemicals of the old process, which soiled the clothing and stained the fingers, and the dusty, burdensome, complicated camera are things of the past. They are antiquities now, along with tallow-candles and spinning-wheels. A great advantage of the gelatine plate, and one which makes instantaneous photography possible, is the rapidity with which the exposure can be made. Vessels under full sail, horses speeding round a racecourse, and even a crowded street and a railway-train under headway are caught by this wonderful film as fully and accurately as though all motion had been instantly suspended. It is an interesting illustration of the rapidity with which light moves, to watch the taking of an instantaneous picture. It is almost impossible to see the shutter of the camera move, and yet in that almost inconceivably short space of time the impression of the object to be photographed has been received and transferred to the sensitized plate."

"But I have always understood that photographic outfits were very costly."

"They were until recently ; but now, owing principally to the invention of the dry plates, the cost has been greatly reduced. All that you need for taking views is a camera, lens, and tripod, dry plates and holder. You can now procure from a Boston concern, from which I ordered mine,—the Boston Camera Company,—a complete equipment, including chemicals for developing and finishing, plates and materials; the whole outfit for a ten-dollar bill. The best part of it is that you are ready to begin work with this outfit within ten minutes after taking it from the express-office. The Expert Camera, the kind I refer to, is of the best

workmanship and finish; has a good lens, giving a sharp picture the full size of the plate. The detachable tripod accompanying it is strong and light and when folded takes up very little space."

"But is not the taking of a picture a very complicated process?" I asked.  
"Men like myself have no time to devote to learning a trade for amusement only."

"Let me describe the process," said my friend, "and you can judge for yourself. The camera must be set up on the tripod, with the glass focusing-screen in position, the lens pointed at the view or object to be taken. Throw a cloth over the head, and the picture will be seen on the glass screen, the camera-back being pulled out until in focus—that is, the point where the view is seen the clearest and sharpest. The focusing-screen is then removed, and the plate-holder (in which the plates have been inserted in the dark room) is set in its place. The slide is then pulled out of the plate-holder, and the cap removed from the lens for a few seconds, causing the plate to receive the impression of the view at which the camera is pointed. Having thus exposed the plate, it is ready to develop, which is done by the application of the chemicals in a dark room, taking but a few minutes to accomplish, and after drying, the plate has become a finished negative, from which any number of pictures may be printed and finished. To print the pictures, all that is required is to place the negative on a piece of sensitized paper in the sunlight—the rays of the sun causing to appear on the paper the exact reproduction of that which was seen on the focusing-screen preparatory to exposing the plate.

"Now, don't you think it might be worth your while to give it a trial?" concluded the *World* artist, as he rose to go.

"Yes, I do," said I, heartily; "and that as soon as the mail can take an order for an outfit and the express company can bring it back."

At the end of a week I was the possessor of an "Expert," and had joined the ranks of the army of amateur photographers. In two days I had a practical insight into the art, and in a few weeks I was an adept.

There was one annoyance, a fruitful one to young beginners, that I was spared—I mean failure to properly mix my chemicals. With my outfit was included a ready mixed developing solution, and all that I had to do was to use it according to the directions. It saved the trouble of weighing out and mixing the different chemicals, and the danger of spoiling, at the last moment, negatives worthy of a better fate.

I have been taking photographs now for two months, and the camera has been almost an inseparable companion. No one knows until he once tries it what a fascination amateur photography has over one, and it is rapidly winning its way into the favor of everybody. Unlike other amusements, one feels that he has really accomplished something, and can point to his album of finished pictures as evidence of the fact. Once having tried it, one will be surprised at the many

## DIRECTIONS.

uses to which you may apply it. The likeness of a favorite horse or dog may be preserved, or a pleasant memento of a garden-party secured by an instant's adjustment of the camera. A favorite view from a neighboring hill, a picture of the old sweep-bucket well, a woodland corner, are among the thousand and one things that one would never think of applying to a photograph gallery for, and yet would be very glad to have. My own portfolio, with which I amuse and delight my friends, is one of my greatest treasures. Any one may succeed at this delightful work, with a very little time and patience, and the expenditure of a ten-dollar bill. It is the cheapest amusement I ever had.

Not only this, but I have got back more than the cost of my outfit by selling prints from many of the negatives I have made, without really making any effort to realize on my investment, and I know that, were I at liberty to follow my inclinations, it would pay me handsomely to travel about with my outfit, taking orders for photographs, which everybody is glad to have, and which cost very little to make and sell for good prices.—*N. Y. Weekly World, June 6, 1886.*



HOW TO OPERATE THE CAMERA  
AND PRODUCE THE PICTURE.  
READ CAREFULLY BEFORE  
USING THE CAMERA.

In compiling these directions it has been our aim to make them as brief as would be consistent with a thorough explanation of the process, and we have, therefore, written them with especial reference to the use of our *ready mixed developing and toning solutions*, in which the many different chemicals used in these processes are mixed together in exactly the correct proportions and in concentrated form. We are thus enabled to dispense with the many lengthy formulas which only tend to make the process unintelligible to the beginner, and with only a few pages to cover the whole ground. These solutions are very carefully prepared, ready for use, and are recommended as being the easiest for the amateur to handle and produce the best results.

**The Dark Room** is used for unpacking the plates, placing them in the plate-holder, and for developing them after exposure. Care should be taken to keep *every ray* of white light out of the dark room. A dark room does not mean a room with the door closed, and light coming in through the transom or cracks, but one *absolutely dark*.

A common dark closet with a shelf or stand, a pitcher of fresh water, and a basin will be all that is necessary; but first go inside, shut the door, and if, after remaining *two or three minutes*, any signs of light can be seen through the cracks around the door or elsewhere, hang a cloth or shawl to cover them. The *red or orange light* is the only light the plates will stand, and can be made by cutting an opening in the back of a cigar-box, and pasting a sheet of orange paper, such as we send with each camera, over it, and placing a small piece of candle inside — care being taken that no light comes out of the box into the room, except through the paper. Have a convenient place for everything, and never use the *same bottle or dish for different purposes*.

**INSTRUCTIONS.** Having dusted carefully the plate-holder, open the package of dry plates in the dark room, remembering that any light, except from the red lamp, will at once spoil the plate.

Open the plate-holder by removing the slides, or slides and centre-piece, according to the style of holder, and insert two plates in their receptacles, the *face* or *prepared* side of the plate uppermost; replace the slides, and the holder is ready for use. The *face* of the plate can be readily distinguished from the *back*, which is smooth and glassy. Do not touch the face of the plate with the fingers, and dust lightly with a camel's-hair brush.

**Focusing.** Having set up the camera on the tripod and provided yourself with a black gossamer or cloth, point the camera at the view you desire to take, and draw out the camera-back until the view appears upside down sharply defined on the glass screen, placing the cloth over your head and the back of camera, that you may see the image more plainly. Take time for focusing, and when the view is seen the sharpest upon the glass, fasten the camera-back. Now remove the glass screen, and place the plate-holder in the same position the glass screen was. Always point the camera *from the sun, never towards it*.

**Exposure.** Success in obtaining a good negative depends largely upon the proper exposure, and some care and judgment must be used. It is impossible to make any exact rules as to length of exposure, as it depends upon the light and the character of the scene to be photographed. The beginner should make a record of the length of time he exposes each plate, and will soon gain the experience, which is the best teacher. For an outdoor scene, with good light and a quick plate (small diaphragm in lens), two seconds or less will generally suffice, and for an indoor picture, ten to forty seconds.

## DIRECTIONS.

Now, everything being ready, and *the cap on the end of the lens tube*, draw out the slide nearest the camera in the plate-holder, taking care not otherwise to disturb the adjustment of the holder.

It will be seen that all that now prevents the light from striking the plate through the lens is the *cap*, which you will now grasp with the thumb and finger, and remove entirely out of range of the lens. Count off the seconds, replace the cap, and push the slide back in the holder. Reverse the holder and expose the other plate in the same way, or on another scene. Be careful not to move the camera a particle after getting the right focus, and if you pull the slide entirely out of the holder, throw the focusing-cloth at once over the camera-back, that no light may enter the slot.

**Development.** It is not necessary to develop the plates immediately after exposure, as they can be kept any length of time by removing from the holder in the dark room and putting them in a *perfectly tight box*; and as two or three plates may be developed in one solution, it is well to have several plates which have been exposed as above, in the dark room, before beginning the development. Having lighted the red lantern, fasten the door to the room to avoid any disturbance. Take one part of Ready Mixed Developer to ten parts of water in a clean saucer or graduate; mark one of your trays D, for developer, and place in it a plate, *face up*. Now pour the solution of developer, as above, over the plate in the tray, taking care to entirely cover it, and rock the pan *gently* to keep the liquid moving over the plate. Now watch closely. The development of a dry plate is a process which cannot fail to deeply interest the most careless person, as, under the influence of the developer, the outlines of familiar objects appear on the plate.

As regards *duration*, the image should appear on a properly exposed plate in from ten to twenty seconds, and the development should be continued until the image appears quite strong and *begins to fade* from its bright yellow appearance. This will occupy but a few moments after the image first appears. Do not check the development too soon, as detail will be lost; neither continue it too long, as fog and flatness will result. As in exposure, experience will be found the best instructor as to duration, and after a few attempts, the amateur will be able to judge for himself as to the proper length of time for development. Having completed the development, the plate should be *thoroughly rinsed* in clean water.

**Fixing.** Mark one of your trays H. for hypo. (hyposulphite of soda), and pour in eight ounces of water, in which dissolve about two ounces of hypo. Put the plate which has been developed and rinsed in the hypo. solution face up, and leave it until the opaque yellowness seen from the back of the plate *entirely disappears*. This will take about five or ten minutes, and the plate must then be *thoroughly rinsed* in clean water and stood on a shelf or

rack to dry. Have the hypo. *dissolved beforehand*, to save delay. Never use heat to hasten drying, which will take several hours. Now, develop the next plate by the same process, always pouring the developing solution back into the saucer or graduate after using, and putting the plate into tray D, before the solution. After *fixing*, the plate, which has now become a *negative*, may be removed from the dark room, as light will not now affect it; but always be sure that any plates which have not been developed, and fixed, are covered up before opening the door of dark room.

**Printing.** After the negative is thoroughly dry, take a sheet of sensitized paper and lay the negative over it on a flat surface in the bright sunlight, the face of the plate next the prepared side of the paper, so the rays of the sun will strike *through* the negative, and leave it thus exposed until the paper seen through the glass looks quite dark. The printing-frame will greatly facilitate the process of printing, the back being hinged so as to admit of lifting one end of the print for examination, without disturbing its position in the frame. A satisfactory printing-frame may be made by cutting out a smooth piece of wood the size of negative. Split crosswise, hinge the two pieces together, and cover bottom with cotton flannel. The negative and paper may be clamped on to the board by four clothespins, two of which may be removed to lift up one end of the board and print for examination. The time required for printing depends upon the character of the negative, a thin, transparent negative printing very quickly,—a minute or so,—while one that is very thick or dense may take an hour or more. It will be seen that it is the action of the sunlight on the sensitized paper which changes its color; hence, the pictures should be placed in a box or drawer after printing, until ready to tone. Having made a half-dozen, or more, satisfactory prints, you can now give your attention to the final process, or

**Toning.** First, place the prints face down in a dish of clean water, and let them soak about ten minutes, keeping them separated. Meanwhile, pour into a porcelain dish, or tray, equal parts of the Ready Mixed Toning Solution and water. Place the prints in this solution and let them remain until the reddish-brown color disappears and they assume a satisfactory tint, and then put them back in clean water for five minutes more. Now place the prints in a fresh solution of hypo. not quite so strong as that used for fixing the negatives, allowing them to soak about ten minutes, after which they must be soaked again in clean water for one or two hours before drying. The greatest care must be taken with prints, as well as negatives, to *rinse very thoroughly* after putting in the hypo. solution, as any traces of hypo. remaining on a plate, or picture, will gradually ruin it. You cannot be too free in the use of *clean water*, which must be renewed every time the dish is used. Should a fresh print be placed in water which had been used to wash a print after soaked in hypo. it would spoil it. The toning process may be conducted in moderate light.

**Mounting.** Add one ounce common starch to three ounces water, dissolve and boil. Lay the prints face down on a sheet of glass while *damp*, apply the paste, and mount as desired.

**PORTRAITURE.** Indoor portraits are rather more difficult to produce satisfactorily than outdoor scenes, and require a well-lighted room, considerable care, and a longer exposure. The sitter should be placed quite near to the window, the light striking well on the face, and a white screen, which may be made by hanging a sheet smoothly over a frame or clotheshorse, behind, for a background. A second screen may be used to good advantage for reflecting and graduated the light. At least twenty to thirty seconds' exposure will be necessary, and if the room is poorly lighted, from that up to several minutes.

**INSTANTANEOUS VIEWS.**—In photographing moving objects it will be seen that the exposure must be very short, in order that the motion may not be appreciable, and as it would be impossible to remove and replace the lens-cap quickly enough to take such a view, the employment of the "drop-shutter" becomes necessary. The shutter, being arranged to uncover and cover the lens with great rapidity, catches the object in the position occupied when in front of the camera, its motion being seemingly stopped. Instantaneous views require strong light, and a quicker grade of plate than for ordinary use. The camera should be focused on the point where the moving object is to pass, and the shutter released instantaneously when the object crosses that point. Do not try to photograph a moving object *too near the camera*; a fair distance is necessary to obtain a satisfactory result.

**TRANSPARENCIES OR POSITIVES ON GLASS.**—These are very beautiful for window decoration or for lantern-slides, and may be produced in several ways, the simplest being by contact printing, as follows: Place a negative in the printing-frame, same as for paper printing, and (in the dark room, of course) place a fresh plate face down against it and replace the back. Expose by holding a few seconds under the rays of a lamp or gas-jet and develop the plate as usual, but instead of a negative a *positive* effect will be produced, or a photograph on glass.

If used for window decoration, frame with a piece of *ground* glass behind for a mat. If for lantern-slides, a piece of clear glass should be placed behind and the two fastened together with black paper at the edges.

#### GENERAL REMARKS.

The two errors most liable to be made by beginners are *over-exposure* and *under-development*. When a plate has been exposed *too long*, the image flashes

quiekly into view upon the applieation of the developer, without any very distinet outlines, and fades away almost as quickly as it came, into a smoky haze, while, if the exposure has been *too short*, the image comes up very slowly, with strong contrasts between the lights and shadows, but no detail. Should the appearance of the plate in developing indicate that it had been *under-exposed*, add a few drops more of the undiluted developer to the solution. If *over-exposed*, add quickly two or three drops of saturated solution of Bromide Ammonia, a small bottle of which may be kept within reach.

Though the plate-holder is practically light-tight, it should be kept covered up when filled, as an additional protection from the rays of the sun.

When examining a plate during development, do not keep it out of the liquid any longer than necessary.

Always wash the hands after using hypo. before touehing plates or any other solution.

See that all solutions are *stoppered tightly*, using new stoppers (rubber, if possible) after opening bottles, and keep plates in a cool dry place.

Keep the inside of the camera dusted and use old soft linen to clean the lens.

Examine the eondition of bellows occasionally by capping the lens, removing the glass screen, and plaeing the cloth over your head and camera-back. If any leak appears, touch it up with thick, dead black paint.

If erySTALLIZATION appears on finished negatives, it is because the hypo was not thoroughly washed out. Pictures to be toned should be printed *very dark*, as the toning process bleaches them.

A "saturated solution" is one consisting of a liquid in whieh all of the solid chemical has been placed that the amount of water will dissolve.

To obtain the finest possible results in printing, the sensitized paper should be *fumed* a few moments before using. Put the paper to be used in a wooden box over a saucer containing a small quantity of strongest ammonia and close the box. The paper should be placed so as not to come in direct contact with the ammonia.

Should the plate show any tendency to *frilling*,—that is, the film peel off from edges of the plate,—after fixing immerse it for a few moments in a strong solution of the *alum*, whieh will toughen the film.

# CATALOGUE.

Our world renowned Expert Outfit.

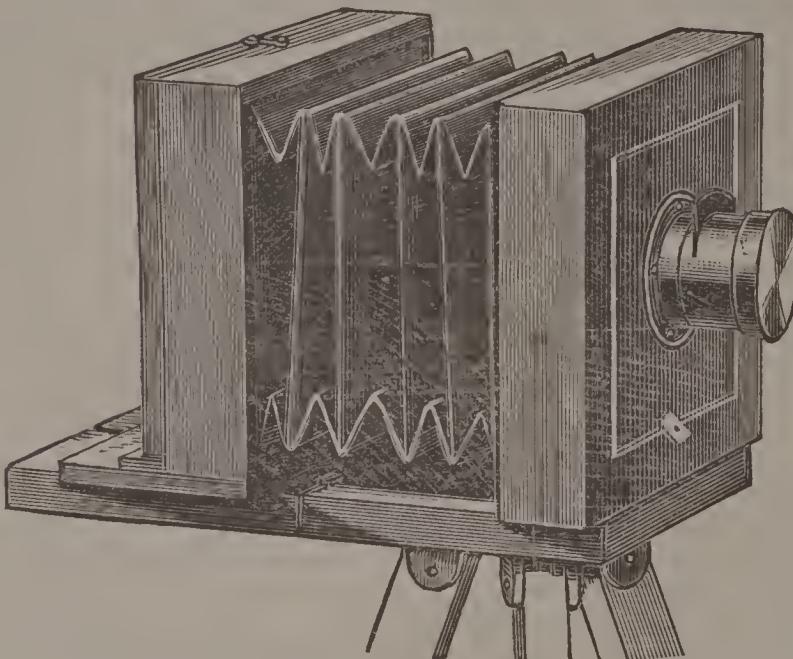
SIZE,

4X5

Complete

for

\$10.



The  
Most Popular  
Camera  
ever offered  
for sale.

In offering our Improved Expert Camera and outfit to the public, we claim that we are giving more for the money than has ever been attempted by any house in the trade. In the first place we offer not only a first-class camera with lens, tripod, plate-holder, and focusing-screen, at as low a price as the cheapest styles of this size have ever been sold, but we give with every camera a **complete outfit**, comprising everything necessary for the entire process of taking and finishing a picture.

Nearly all beginners are misled by advertisements offering "Camera Outfits" for ten, twelve, or fifteen dollars, as the case may be, only to find, after purchasing, that they must make a further investment of from five to ten dollars before they can make the first attempt at photography.

Our Improved Expert outfit consists of a thoroughly well-made 4x5 plate camera, suitable for all kinds of work, with lens, focusing-screen, and tripod, one double reversible plate-holder, one box of best instantaneous dry plates, one box of best sensitized albumen paper, developing outfit, with the necessary chemicals for developing and fixing the plates printing outfit with toning solutions for finishing the pictures, trays for the different solutions, and material for dark-room lantern, packed in a strong carrying-case.

The **Improved Expert Camera**, as shown by the engraving, is finely made and finished of polished *butternut wood*, of the latest model, with *movable front board*, brass trimmings, and our new *swing lever* for holding the back in focus. The *bellows* are of extra length, and will admit of adjustment for a portrait within a few feet of the camera or the most distant landscape. The **lenses** are made especially for this camera, are very carefully ground, and will give a wonderfully sharp picture, very nearly as good as the expensive double lenses. Our **patent reversible plate-holder**, supplied only with these outfits, is so constructed as to bring the *length* of the plate *up* and *down*, when so desired, for taking an elevated view, without altering the position of the camera on the tripod, answering all purposes of a **reversible back**. The **tripod** is of the *sliding, adjustable* pattern, very light and strong and very rigid. Our **ready mixed developer**, supplied with these outfits, is one of the greatest boons ever offered to amateurs, saving, as it does, all trouble of weighing out and mixing the different chemicals. It is made from the best known formulas, in concentrated form, and one bottle will develop several dozen plates.

We warrant every **outfit**, and will send one to any address complete, with everything described above, on receipt of **Ten Dollars**.

Sample photograph made with the Expert outfit will be sent by mail on receipt of 6 cents.

### The Improved 5x7 Expert Outfit.

**5X7**  
THE POPULAR SIZE.

ONLY \$12.50

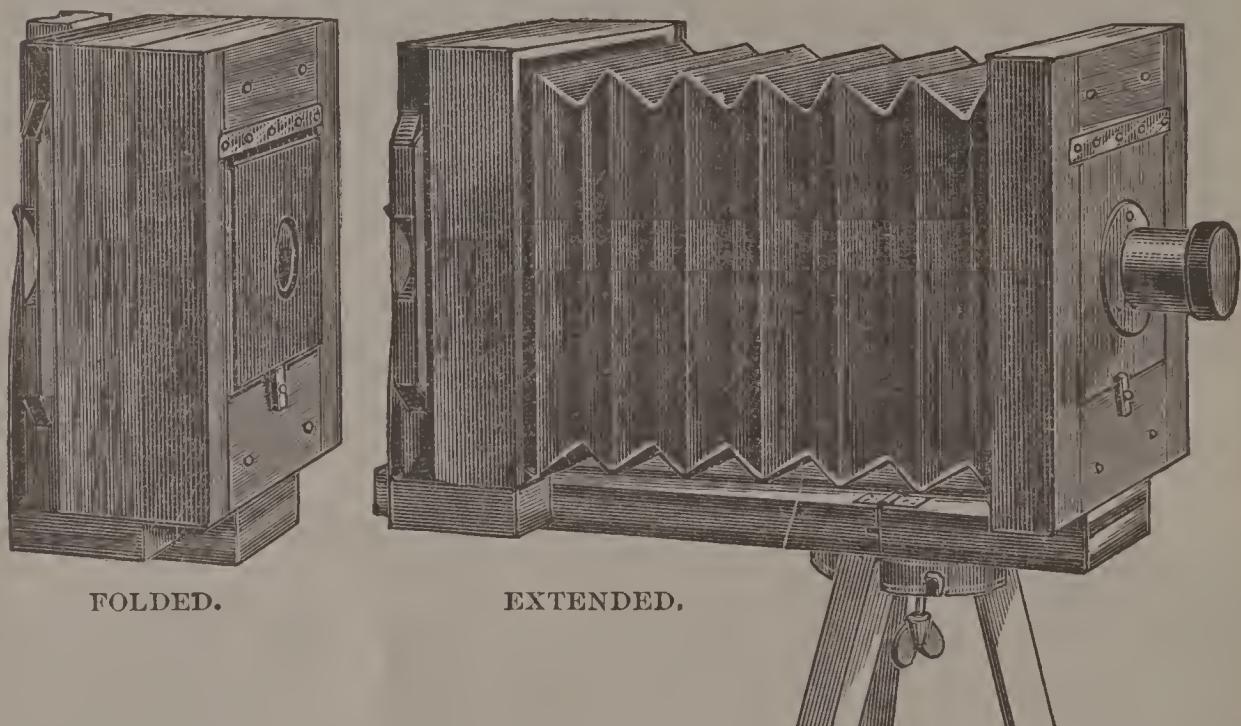
The great success of our 4x5 **Expert** outfit has induced us to manufacture it in a larger size of the same general style, to sell at a correspondingly low price; and in presenting our new **5x7 Expert**, we offer an even greater bargain than in the original pattern. The 5x7 plate is now the most popular size for landscape and view work and will make full cabinet size photographs as well. No other reliable 5x7 *camera* has ever been offered for a less price, and our new outfit, like the 4x5, embraces everything necessary for the *complete process*.

The **camera**, as shown by the engravings below, is thoroughly well made of butternut wood, with brass trimmings, handsomely finished, and is very light and strong. It has the *movable front board* and *swing lever clamp* and the *folding bed*, which is made rigid by a patent device and can never become loose or shaky. We desire to call especial attention to our patented **reversible plate-holders**, which constitute an important part of the Expert outfits. By simply shifting their position on the camera, the plate is in position for either an upright or horizontal view *without changing in any way the adjustment of the camera*.

## THE EXPERT OUTFIT.

To make this change rapidly is often very desirable, and these holders admit of a quicker adjustment as well as answering all purposes of the *Reversible Back*, which is applied only to much higher-priced cameras.

The **LENS** is of the same pattern which has given such general satisfaction with the 4x5 size, of larger field, and will do first-class work. The *bellows* are of double thickness and capacity for extra long focus, and the *tripod*, adjustable to any height, sliding together for carrying, light and very rigid.



The **Expert 5x7 outfit** consists of the **camera**, with **lens**, **focusing-screen**, and **plate-holder**, as described above, **SLIDING ADJUSTABLE TRIPOD**, and **carrying-case**; one box best *instantaneous dry plates*; one box best *sensitized albumen paper*; **developing outfit**, with all chemicals necessary for developing and fixing the plates; one improved **printing-frame**; **toning solutions** for finishing the pictures; **trays** for the different solutions and material for dark-room lantern,—everything necessary for the complete process. Every outfit *warranted* and shipped complete on receipt of **\$12.50**.

We can supply the 5x7 Expert outfit with *two extra matched lenses*, extra front board and inside partition for **Stereoscopic views**, for **\$5** extra, or **\$17.50**. The partition may be removed and the front boards shifted for single or stereoscopic views, as desired.

We will send sample view, made with the Expert 5x7 outfit, on receipt of 10 cents in stamps, or cabinet portrait, mounted, 15 cents.

## Our New Victor Camera Outfit.

**SIZE,**

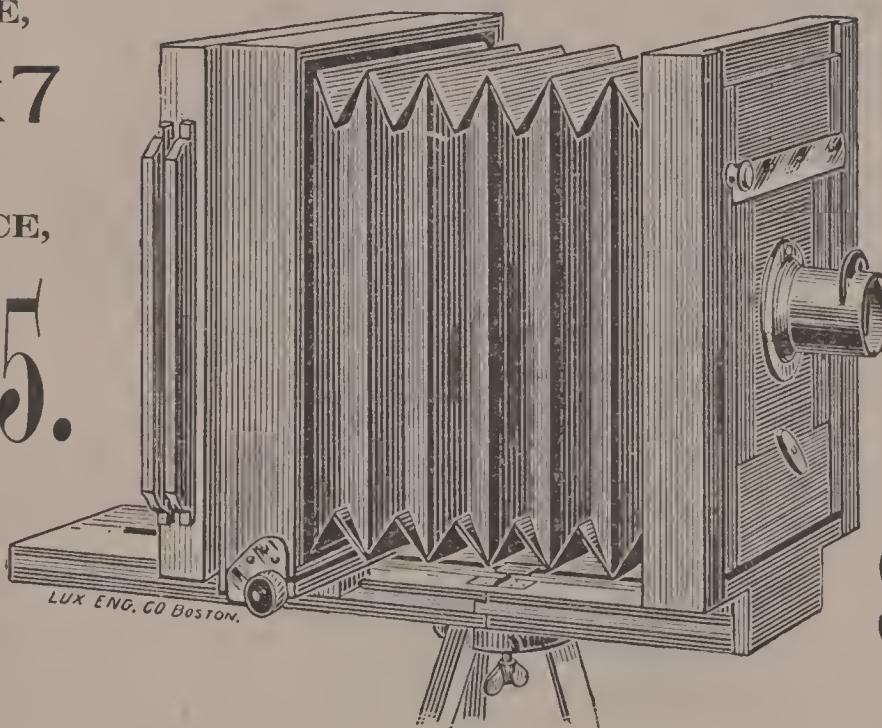
**5x7**

**PRICE,**

**\$15.**

**With  
Developing  
and  
Printing  
Outfit,**

**\$18.50.**



Our new **Victor** outfit consists of a light, finely-finished *mahogany view camera*, making 5x7 pictures, with *swing back* and *rising front* movements, an extra quality **ACIROMATIC LENS** with *revolving diaphragm*, improved *Featherweight reversing back* and **PLATE-HOLDER** combined, carrying-case, and **extension adjustable tripod**.

The **Victor** is of the same careful design and workmanship as our regular *Reversible Back* cameras, and is the handsomest and most convenient camera ever offered for less than twenty-eight dollars.

The folding bed is made *perfectly rigid* by the same movement which clamps to it the tripod head, and the back held in focus with our swing lever movement, dispensing with thumbscrews and catches, and reducing the time necessary to set up and adjust the camera to a minimum.

The **LENS** is of superior illuminating power, making clear, distinct pictures, and is also adapted to *instantaneous views*.

The Featherweight reversible plate-holders are fully described on the next page.

Price of the outfit as described above only **Fifteen Dollars**; or with com-

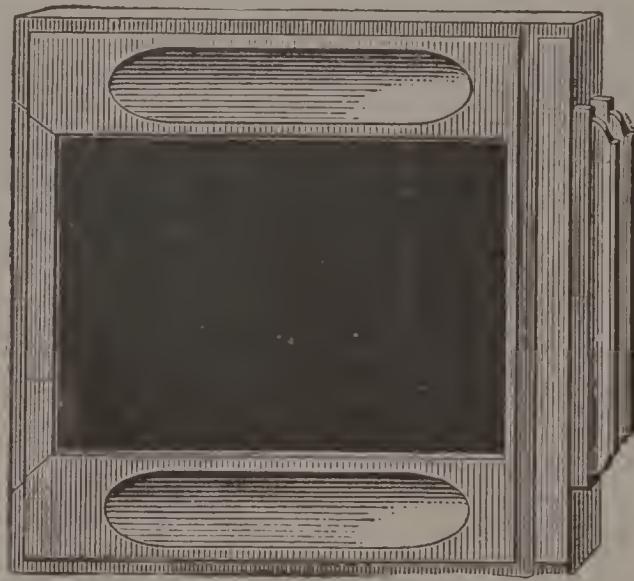
plete developing, printing and toning outfit for finishing the pictures, same as supplied with the *Expert 5x7* outfit (see page 11), **\$18.50.**

Those who desire a little higher grade camera and lens than our Experts, without going into the more expensive Reversible Back cameras, will find the **Victor** outfit to be a perfectly satisfactory investment.

Sample photographs 10 cents in stamps.

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## The Improved “Featherweight” Plate-holder and Reverser combined.



This holder is designed to do away with shifting the position of the camera on the tripod when it is desired to make a vertical picture.

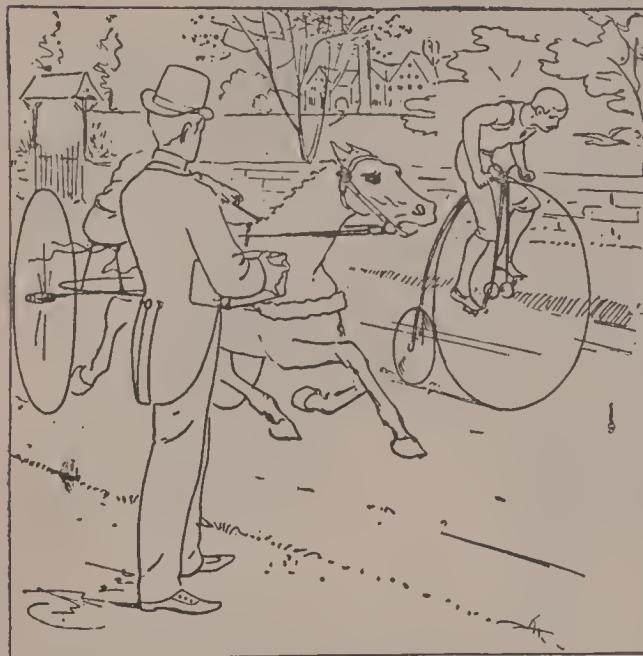
The holder may be applied to the camera *either way*; that is, with the slides at the *top* or at the *side*, same as a Reversible Back, the only difference being that the back and the plate-holder are all in one instead of being separate. It is no heavier than an ordinary plate-holder, the additional stock being hollowed out, as shown in the illustration. It is adapted to our new **Victor** camera, and also to **Expert 5x7** cameras, shipped later than February, 1889. Guaranteed *perfectly light-tight*.

Price, **\$1.50** each, with patent erasable memorandum slides.

## The Wonderful Hawk-Eye Detective and Combination Camera.

Size of Pictures, **4x5.**

Price, **\$15.**



The many advantages of the DETECTIVE type of camera are now so well understood that a lengthy description of them is unnecessary. Extremely light and compact, and in appearance resembling a grip-sack or sample case, the Detective camera may be employed where the use of an ordinary apparatus would be impracticable, and a portrait or view obtained with the knowledge of no one save the operator. Always ready for use, no time is lost in setting up the camera, and *persons or objects in motion* may be photographed as perfectly as if stationary.

The **Hawk - Eye** Detective Camera possesses more advantages and desirable features than any other, combined with extreme simplicity of construction and capacity for making pictures of the utmost excellence, and is consequently *the best*.

THOMAS STEVENS, the renowned traveler, who selected a COLUMBIA bicycle and a SMITH & WESSON revolver, both of which are recognized as the standard in their respective lines, when fitting out for his perilous trip



FIG 1.

## THE HAWK-EYE DETECTIVE CAMERA.

around the world, chose a **Hawk-Eye** camera from all others for use on his present expedition to Central Africa in search of Stanley and Emin Bey.

The **Hawk-Eye** camera is adapted to the requirements of nearly every purpose for which the art of photography may be employed.

It is a DETECTIVE CAMERA. It is a VIEW CAMERA. It is an INSTANTANEOUS CAMERA. It is an AUTOMATIC CAMERA. It is a MAGAZINE CAMERA. It is an *All-around* camera.

The method of operating the **Hawk-Eye** camera will be readily understood from the adjoined illustrations. Fig. 1 shows the camera closed ready for use, the plate-holders containing the sensitized dry plates having been inserted in position. The shutter is set by pressing the pin **A**.

To take an instantaneous picture the camera is held under the arm pointing toward the object to be photographed, which is shown in miniature upon the finder **C**.

A pressure upon the catch **B** causes the shutter to open for a fraction of a second, during which the dry plate or film receives the impression of the picture, a quick acting lens being located behind the shutter.

The shutter may be instantly adjusted to move slowly or quickly, according to the strength of the light, or whether the object to be photographed be moving or stationary, by means of the speed-adjuster **D**. Fig. 2 represents the focusing index, which is graduated for distances from 10 feet to 100 feet and beyond. To change the focus of the camera it is only necessary to turn the thumbscrew **F** (see Fig. 3) which controls the index. *No lens* will make a clear and distinct picture at any and all distances at a *fixed focus*, and to focus the **Hawk-Eye** camera requires about as long as it does to *wink*.

**AS A VIEW CAMERA.**—The **Hawk-Eye** may be set up on a tripod or any convenient resting-place and a time exposure made by simply pressing the shutter-pin down to the halfway catch which holds it open, and touching the release **B** to close, obviating the use of a cap over the lens.

Upon removing the back cover **G** (see Fig. 3), the view is seen in full size upon the ground-glass screen inside, without employing a focusing cloth, and the focus adjusted with the screw **F** same as with a "rack and pinion."

The price of the **Hawk-Eye** camera with double plate-holder is \$15. The dry plates may be obtained anywhere, being of a standard size (4x5). The operation of developing the plates and finishing the pictures is *extremely easy*, and will be readily understood from the directions sent with each camera.

Plate-holders for the **Hawk-Eye** camera are made for either glass or film dry plates. In the film plate, weight is reduced to a minimum, a dozen of them



FIG. 2.

weighing but a few ounces, making them especially desirable for travelers' use. They may be shipped by mail or returned for development if desired at a few cents' cost for postage.

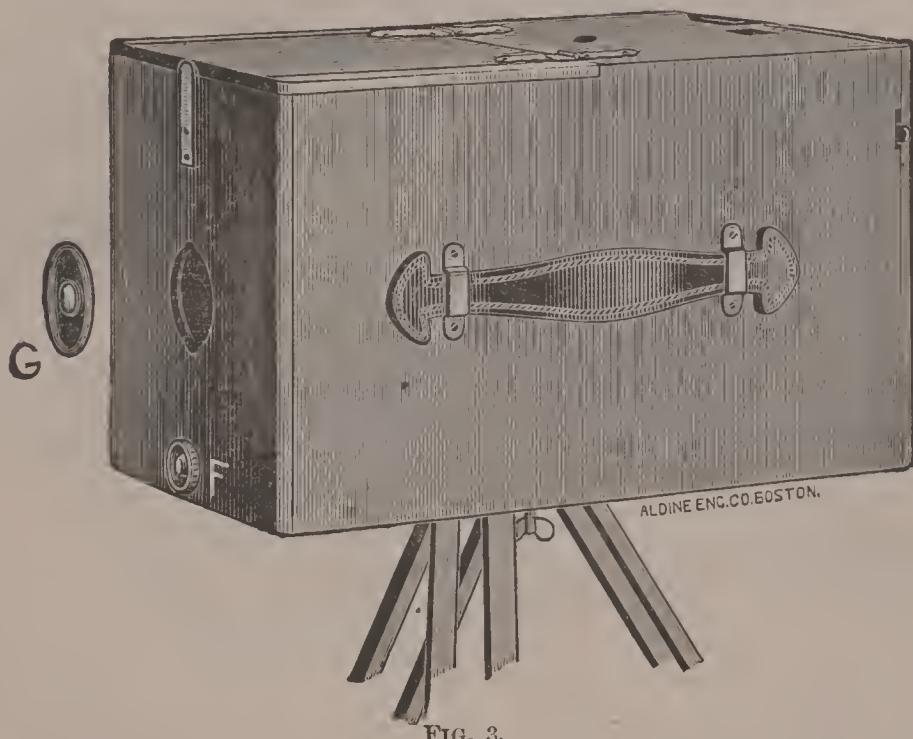


FIG. 3.

**AS AN AUTOMATIC MAGAZINE CAMERA.**—The Hawk-Eye will be supplied at an extra expense of \$10, with an attachment containing a coil of sensitized film for taking 100 pictures. The method of operating the camera is the same as before described, but instead of filling and unloading plate-holders with the separate dry plates, it is only required to wind a fresh portion of the coil of film into place for each picture.

When the one hundred exposures have been made the attachment may be slipped out of the camera and sent to the factory to have the pictures developed and finished, and a fresh coil of film inserted.

Photography is thus placed within the reach of all, as one has only to set the shutter, turn the key, and press the catch for each of the 100 pictures.

We will do all the work. We will develop the strip of film and make one finished picture from each of the hundred negatives, and return negatives and pictures with the attachment reloaded. Duplicate pictures, as many as desired from each negative, may be at any time obtained, at a cost of 6 cents each.

The film may be developed and the pictures finished by the amateur himself (or herself), without sending to the factory, if preferred. We will furnish an

## THE HAWK-EYE DETECTIVE CAMERA.

outfit for this purpose, as described in the instruction book. The exposed portion of the film may be at any time removed from the attachment in a dark room, without waiting until the entire 100 exposures have been made.

Fig. 4 represents the coil attachment, which is inserted in the camera in the same manner as a plate-holder.

It is *not required* to insert and withdraw a slide or cover in front of the film between each picture, a *safety device* keeping the lens covered while setting the shutter, and preventing premature or accidental exposure. The slide is used only in removing the attachment from the camera.

The price of the **Hawk-Eye** with coil attachment as above (\$25) *also includes* a double holder for the regular dry plates. Thus with one camera, pictures may be taken with the **GLASS DRY PLATES**, the **FILM DRY PLATES**, or the **COIL OF FILM**, as desired.

The coil attachments may be at any time purchased separately, at the price \$10, including coil of film, and applied to all **Hawk-Eye** Cameras shipped from our factory later than March 15, 1889, without any fitting.

The **Hawk-Eye** Camera is light, compact, and neatly finished, and is *not liable to get out of order*. Each one is carefully tested before leaving the factory and guaranteed to be in perfect working order.

Sample photographs 6 cents in stamps.

## PRICE-LIST.

The Hawk-Eye Camera, hand-finished case, lacquered trimmings, with one double plate-holder, 4x5 . . . . .	\$15.00
Extra plate-holders for glass dry plates, each . . . . .	1.00
Extra plate-holders for film dry plates, each . . . . .	1.00
Glass dry plates, 4x5, per dozen . . . . .	.65
Film dry plates, per dozen . . . . .	.95
The Hawk-Eye Camera as above, with Automatic Coil Attachment, containing coil of film for 100 pictures, and one double plate-holder . . . . .	25.00
Additional coils of film or refilling the attachment . . . . .	4.00
Developing and finishing 100 pictures . . . . .	15.00
Developing only, 100 negatives . . . . .	10.00
Albums for Hawk-Eye photographs, holding 100 pictures, handsomely bound . . . . .	2.50
<i>☞ The Hawk-Eye will be supplied, covered with black grain leather, oxidized trimmings, and slides over the finder and lens aperture, when so desired, at an extra expense of . . . . .</i>	5.00

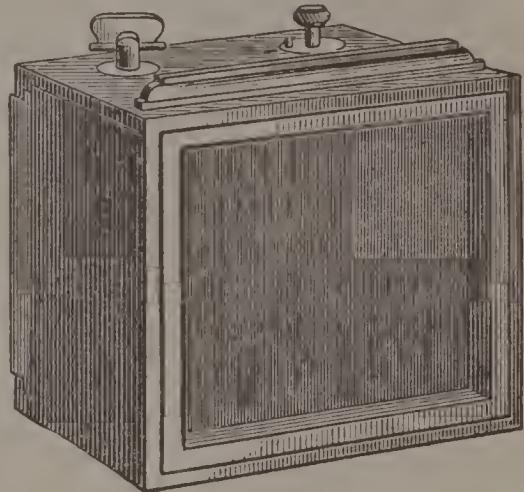
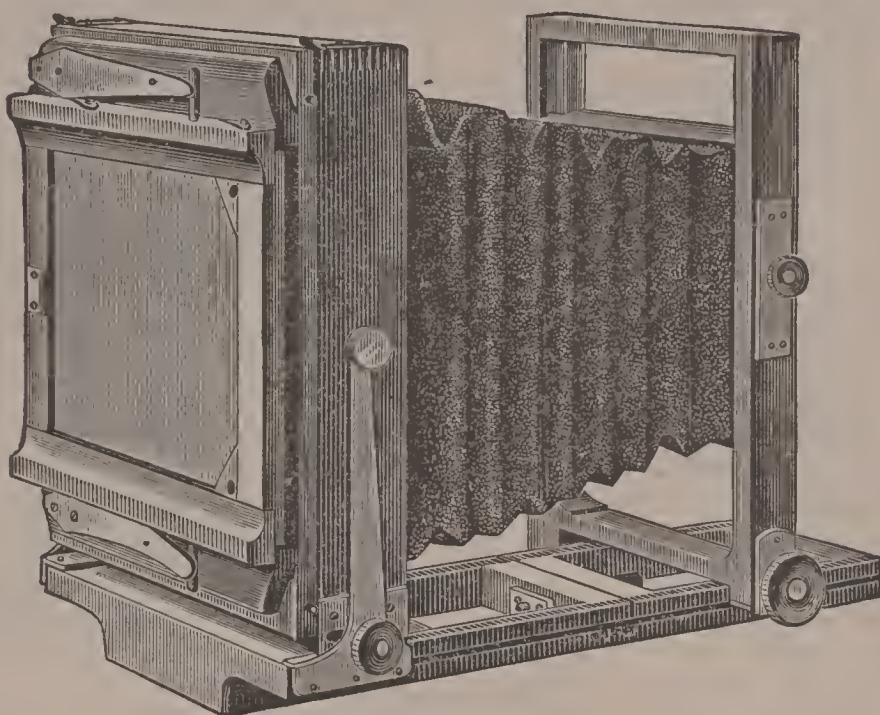


FIG. 4.

## The New Boston Reversible Back Cameras.



Our new Reversible Back Cameras embody *every possible improvement and convenience* which can suggest itself to an experience gained in the manufacture of the highest grade of photographie apparatus, and are without exception the **BEST IN THE WORLD**.

They are constructed on the most *scientific principles*; they have more *patented improvements* and ingenious appliances than any others, and for every purpose that a portable view camera may be used, are absolutely unequalled.

A few of the notable points of superiority are the ease and rapidity of adjustment of the reversible back, the construction of the swing back, and the method of applying the plate-holders.

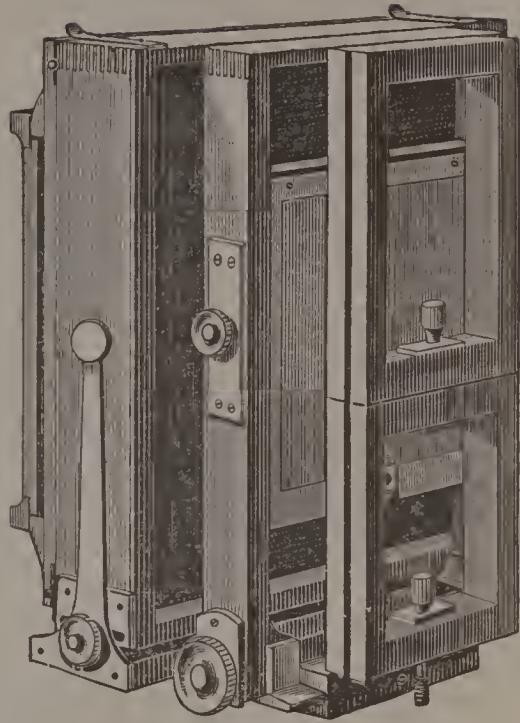
In construction they are of the *very finest material and finish*, the wood-work being of best seasoned mahogany, with French polish, the trimmings of brass, hand-finished and lacquered, and the bellows of a new material, which is extremely tough though pliable, and will not crack or become leaky, as is often the case with the best of rubber. The bed possesses the essential qualities of *strength and rigidity*, with freedom from needless complications. The focusing is accomplished by a fine rack and pinion movement.

To apply the plate-holder, the ground-glass frame is drawn back sufficiently to

admit of sliding the holder under it, when the springs, shown in the illustration, hold it firmly in position.

**Extension backs** for making a *size larger picture* with the same camera can be furnished and applied without any fitting.

The prices as below include a **carrying-case**, covered, lined, and leather trimmed, one **Featherweight plate-holder** (registering slides), extra **front-board**, and **tripod-screw**. In selecting a complete outfit embracing a Reversible Back Camera, the lens, tripod, and chemical outfit desired should be added to the price of the camera.



#### PRICE-LIST.

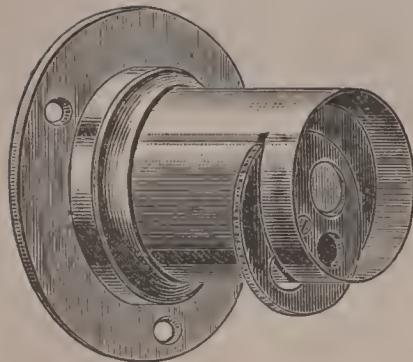
Size 5 x 7, Single Swing Back.....	\$28.00
,, 5 x 8, " "	30.00
,, 6½ x 8½, " "	30.00
,, 8 x 10, " "	34.00

Where a Double Swing is desired, it will be supplied at an additional charge of \$2.00.

Interchangeable Backs.

## LENSES.

### Our Victor Single Achromatic Lens.



These lenses are made from the finest quality of glass, are perfectly achromatic, and of *superior illuminating power*. They are adapted to all-around use, and will make excellent instantaneous pictures, working very quickly with medium sized aperture. They are provided with *revolving diaphragm* and the mounts are handsomely finished.

No.	Size of Plate on which the lens will cut the image clearly.	Diameter of Lens.	Diameter of Flange.	Back Focus.	Price.
1	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	1 $\frac{1}{4}$ in.	2 $\frac{1}{8}$ in.	5 in.	\$5.00
2	4 $\frac{1}{4}$ x 5 $\frac{1}{2}$	1 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	8 "	5.00
3	5 x 8	1 $\frac{3}{4}$ "	2 $\frac{3}{4}$ "	9 $\frac{1}{2}$ "	6.00
4	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	1 $\frac{7}{8}$ "	2 $\frac{3}{4}$ "	10 "	7.00
5	8 x 10	1 $\frac{7}{8}$ "	2 $\frac{3}{4}$ "	11 "	8.00

### The Popular Darlot Rapid Hemispherical View Lenses.

These are perhaps the most popular with amateurs of any lens on the market, their sale having been very large since their first introduction. The prices are very low for the class of lens, they are beautifully made and finished, *quick acting*, perfectly rectilinear, and provided with central stops. They will give entire satisfaction for all purposes: *landscapes, groups, and instantaneous views*, as well as copying engravings and architectural subjects. Embracing angles from 60 to 75 degrees.

No.	Size of Plate on which the lens will cut the image fully.	Diameter of Lens.	Back Focus.	Price.
1	4 x 5	1 $\frac{1}{2}$ in.	5 $\frac{1}{2}$ in.	\$15.00
2	5 x 8	1 $\frac{1}{2}$ "	9 "	25.00
3	8 x 10	1 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "	35.00

## Darlot Portrait Lenses

With Rack and Pinion and Central Stops.

No.	Size of Plate on which the lens will cut the image fully.	Back Focus.	Price.
1	4 x 5	4½ in.	\$8.75
2	5 x 7	5½ ,,	14.50
3	5 x 8	10½ ,,	17.50
4	8 x 10	7 ,,	35.50

## Vogtlander's Marvelous Euryscope Lenses.

### The "Rapid Euryscope" (5th Series).

These lenses are celebrated for their wonderful *illuminating power, speed, and fine definition*, in which respects they are unequalled by any known lens.

They are adapted to making *landscapes, buildings, and instantaneous views* of all kinds, as well as *portraits, groups, and heads* in the studio. They are perfectly rectilinear, having great depth of focus and covering power. We recommend the **Euryscope** to all those desiring an extra quality high-grade lens to use with our Reversible Back cameras.

Size.	Diameter of Lens.	Equivalent Focal Length.	Size of Group or Portrait.	Size of Landscape.	Price.
No. 0A	1 in.	6 in.	4 x 5 in.	5 x 7 in.	\$30.00
„ 00A	1½ „	8½ „	5½ x 7½ „	7 x 9 „	40.00
„ 1A	1½ „	10¾ „	6½ x 8½ „	8 x 10 „	52.00
„ 2A	1¾ „	13 „	8 x 10 „	10 x 12 „	64.00
„ 3A	2 „	16 „	10 x 12 „	11 x 14 „	80.00
„ 4A	2½ „	20 „	12 x 15 „	14 x 17 „	110.00
„ 5A	3 „	24 „	16 x 18 „	17 x 20 „	157.00
„ 6A	3½ „	28 „	18 x 22 „	20 x 24 „	208.00
„ 7A	4 „	32 „	20 x 24 „	24 x 30 „	240.00

No. 0A can be had in matched pairs of equal focus for Stereoscopic work.

## The New Gregg Wide Angle Lens.

*For architectural subjects, interiors, and confined situations, embracing angles of 90 degrees. Very rapid, of greatest depth of focus, free from all flare and distortion and covering an extra large plate. They may also be used for landscape work.*

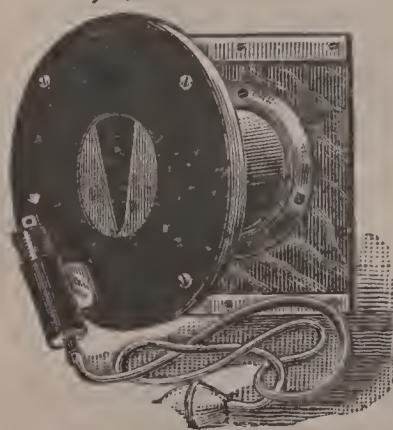
No.	Size of Plate covered full opening.	Size covered with Smallest Stop.	Back Focus.	Price.
1	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	4 $\frac{1}{2}$ x 5 $\frac{1}{2}$	3 $\frac{1}{2}$ in.	\$15.00
2	4 x 5	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	4 $\frac{1}{2}$ ,	20.00
3	5 x 7	8 x 10	6 ,	25.00
4	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	10 x 12	8 ,	30.00
5	8 x 10	11 x 14	10 ,	35.00
6	10 x 12	14 x 17	12 ,	40.00
7	11 x 14	16 x 20	16 ,	50.00

Nos. 1 to 7 fit same flange.

## Shutters.

For Instantaneous Work.

**Standard Drop Shutter**, in two sizes, for small and large lenses. Price, \$1.50.



**The Low Shutter, Instantaneous and Time combined.** Operated by rubber tube and bulb. One of the best shutters on the market. It is easily changed from time to instantaneous exposure by simply moving a small lever to one side. It is simple in construction, and cannot get out of order. Made in all sizes up to 2 1-2 inch opening. Price, \$6.

**Prosch's Celebrated Duplex Shutters**, for both instantaneous and time exposures. Rotary stops and silent time attachments. Prices, \$11.50 to \$25, according to size.

In ordering shutters separately always specify the name and size of lens for which they are desired, and if possible the tube should be sent to have the shutter fitted.

## Plate-Holders.

All of our cameras excepting the *4x5* Expert are adapted to use the well-known "Featherweight" double plate-holders, the *lightest, simplest, and most compact* holder on the market. They are perfectly light-tight, and provided with blackboard memorandum slides.

### PRICE-LIST FEATHERWEIGHT HOLDERS.

Size.	Price.	Size.	Price.	Size.	Price.
$3\frac{1}{4} \times 4\frac{1}{4}$ .....	\$1.00	$4\frac{1}{4} \times 6\frac{1}{2}$ .....	\$1.25	$6\frac{1}{2} \times 8\frac{1}{2}$ .....	\$1.60
$4 \times 5$ .....	1.00	$5 \times 7$ .....	1.25	$8 \times 10$ .....	1.85
$4\frac{1}{4} \times 5\frac{1}{2}$ .....	1.00	$5 \times 8$ .....	1.35		

**Special Featherweight Holders** for film dry plates. extra light, same prices as the above.

**Special Featherweight Reversing Holder** for Victor and Expert  $5 \times 7$  cameras (see page 14), \$1.50.

**Expert Holders**,  $4 \times 5$ , 90 cents;  $5 \times 7$ , \$1.25.

N. B. The *Expert*  $5 \times 7$  holder is adapted only to cameras of this style shipped from our factory *prior to February, 1889*. All *Expert*  $5 \times 7$  cameras shipped since that date take the special *Featherweight Reversing Holder*.

**The English Book Holders.** These holders still retain their popularity in some sections, and our R. B. cameras will be supplied *to order* adapted to their use. They are heavier and more bulky than the *Featherweight*, opening like a book to admit the plates. Prices as follows:—

Size.	Price.	Size.	Price.	Size.	Price.
$3\frac{1}{4} \times 4\frac{1}{4}$ .....	\$2.15	$5 \times 8$ .....	\$2.75	$10 \times 12$ .....	\$8.00
$4 \times 5$ .....	2.25	$6\frac{1}{2} \times 8\frac{1}{2}$ .....	4.00	$11 \times 14$ .....	9.00
$5 \times 7$ .....	2.75	$8 \times 10$ .....	5.50	$14 \times 17$ .....	12.00

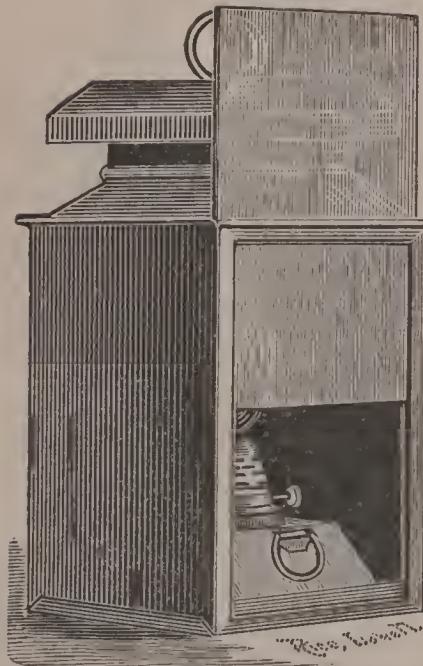


### Inside Kits.

#### A Great Convenience.

These are designed to enable the operator to use plates smaller than the size of the holder, fitting into the holder like the plate with opening for the smaller size. They are of several different patterns, according to the style of holder, hence it must be specified in order *with which style they are to be used*.

Size of Plate-holders.	Size of Opening in Kit.	Price
4 x 5	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 3 $\frac{1}{4}$ x 4.....	.25
4 $\frac{1}{4}$ x 5 $\frac{1}{2}$	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 3 $\frac{1}{4}$ x 4.....	.25
4 $\frac{1}{4}$ x 6 $\frac{1}{2}$	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ .....	.30
5 x 7	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 4 x 5, 4 $\frac{1}{4}$ x 5 $\frac{1}{2}$ .....	.30
5 x 8	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 4 x 5, 4 $\frac{1}{4}$ x 5 $\frac{1}{2}$ , 4 $\frac{1}{4}$ x 6 $\frac{1}{2}$ .....	.30
6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 4 x 5, 4 $\frac{1}{4}$ x 5 $\frac{1}{2}$ , 4 $\frac{1}{4}$ x 6 $\frac{1}{2}$ , 5 x 7, 5 x 8.....	.40
8 x 10	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ , 4 x 5, 4 $\frac{1}{4}$ x 5 $\frac{1}{2}$ , 4 $\frac{1}{4}$ x 6 $\frac{1}{2}$ , 5 x 7, 5 x 8, 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	.45
10 x 12	5 x 7, 5 x 8, 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$ , 8 x 10	.75
11 x 14	5 x 7, 5 x 8, 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$ , 8 x 10	.90



## The Excelsior Ruby Lantern.

THE BEST MADE.

The Excelsior Lantern, as shown by the illustration, is guaranteed to be perfectly practical and has several improvements over all others. The frame containing the ruby glass is easily removable, and here is space in front for another glass or orange paper where it is desirable to decrease the amount of light in using extra sensitive plates. It is *white light proof, free from odor, and perfectly cool at base when burning*. With the ruby glass withdrawn its powerful reflector may be utilized in making transparencies or lantern-slides.

Price, \$2.75.

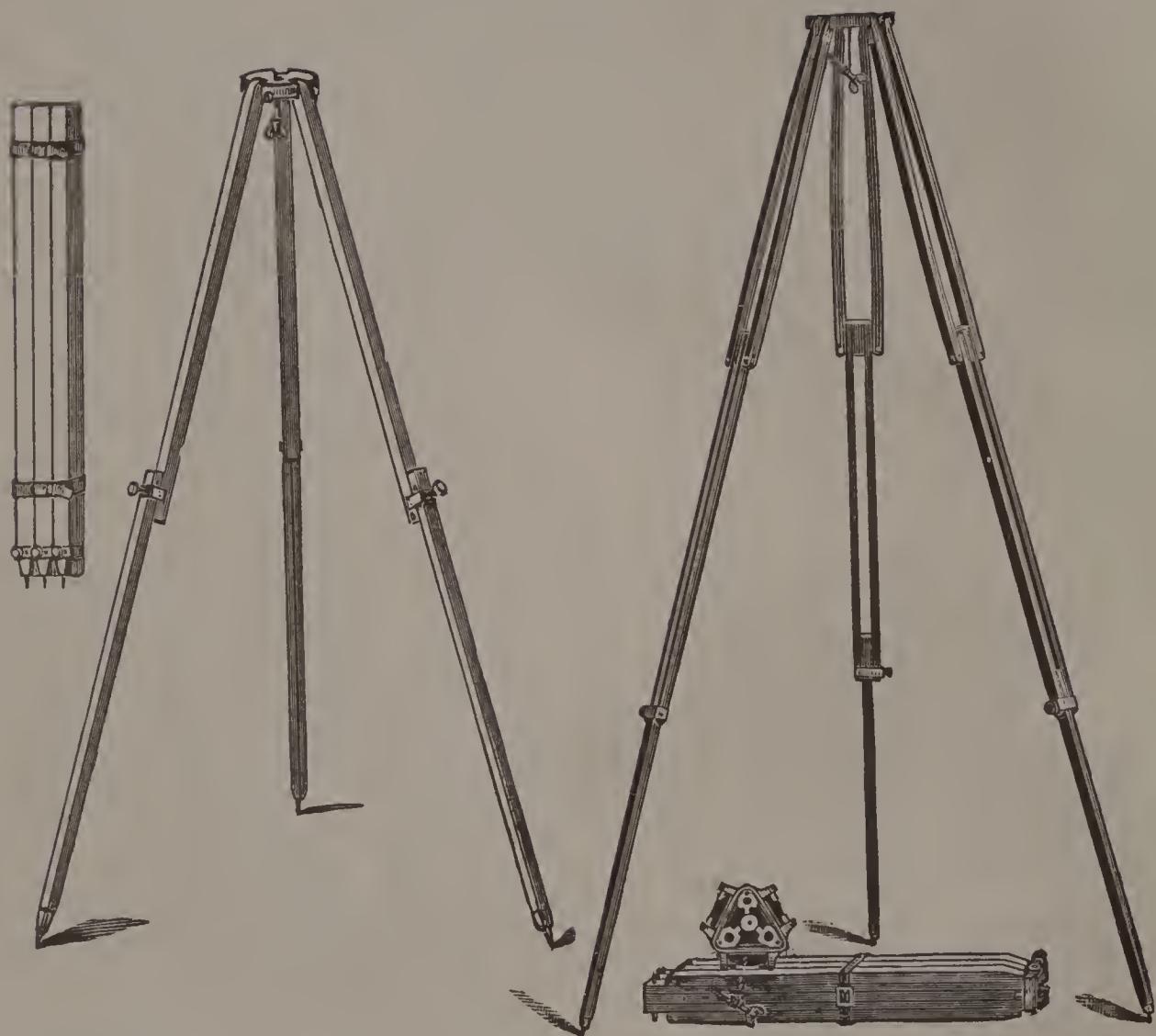
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## The Improved Pocket Ruby Lantern.

A thoroughly reliable lantern at a low price, giving abundant light with compactness and safety.

Price, \$1.25.

## Tripods.



### The Expert Extension Tripod.

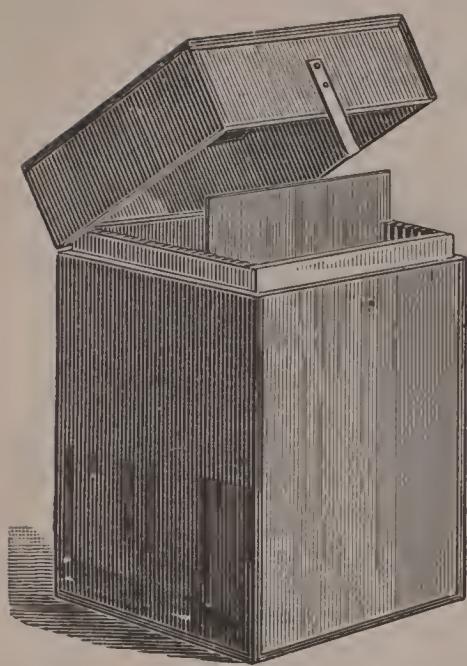
A strong, convenient tripod, well made and smoothly finished, at a lower price than any other reliable pattern. It may be closed up and carried without removing the head. Made in two sizes, for 4x5 and 5x7 Cameras.

**No. 1, \$1.75.      No. 2, \$2.00.**

### The Perfect Adjustable Tripod.

The latest and best tripod for light and medium weight Cameras, combining the strength and rigidity of the folding with the convenience of the extension pattern. Extremely compact and of finest material and finish.

**PRICE, \$4.00.**

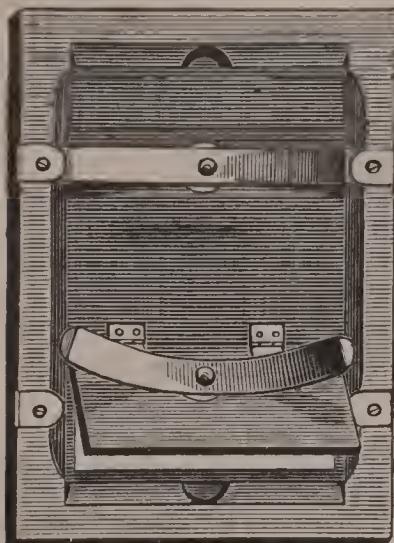


## Negative Boxes

of great value in carrying about plates to change in the dark room, saving the trouble of *undoing* and *wrapping up packages*, and also affording a safe and convenient way of *storing negatives*. Very carefully made with perfect joints to prevent the admission of any light.

### PRICE-LIST.

Size.	Price.
3½ x 4½.....	\$0.75
4 x 5.....	.80
4½ x 5½.....	.90
4½ x 6½.....	.90
5 x 7.....	1.00
5 x 8.....	1.00
6½ x 8½.....	1.10
8 x 10.....	1.25



## Printing-Frames.

These frames are of very *superior quality*, manufactured from well-seasoned stock, and of the most approved design. The springs are riveted, with *swiveling washers* and the ears are sunk flush with the top, preventing any projections. The corners are rounded off and they are very carefully fitted and finished.

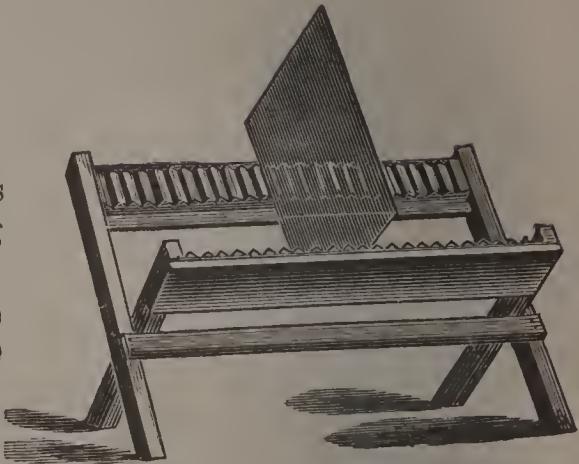
### PRICE-LIST.

Size.	Price.	No.	Size.	Price.
3½ x 4½.....	\$0.45	3015	5 x 7, or 5 x 8 .....	\$0.60
4 x 5.....	.45	3016	6½ x 8½.....	.65
4½ x 5½.....	.45	3017	8 x 10.....	.75
4½ x 6½.....	.55	3018	10 x 12.....	1.00
4 x 7, or 4 x 8 .....	.55	3019	11 x 14.....	1.75

## Negative Drying-Rack.

A great convenience in drying negatives and preventing their scratching. Folding for transportation.

No. 1 for plates up to 8 x 10 .... \$0.50  
 " 2 " " " 14 x 17 ... .90



## Dry Plates.

The following are lowest prices for the best Instantaneous Dry Plates of any standard make. Where any particular brand of plates is desired it should be so stated in the order. We advise that, having obtained satisfactory results with one brand of plates, the operator should avoid changing, unless it is desired to experiment.

### PRICE-LIST, PER BOX OF ONE DOZEN.

Size.	Price.	Size.	Price.
3 1/4 x 4 1/4.....	\$0.45	5 x 8.....	\$1.25
4 x 5.....	.65	6 1/2 x 8 1/2.....	1.65
4 1/4 x 5 1/2.....	.75	8 x 10.....	2.40
4 1/4 x 6 1/2.....	.90	10 x 12.....	3.80
5 x 7.....	1.10		

## Flexible Film Dry Plates.

These plates are developed and fixed in precisely the same manner as the glass dry plates, their great advantage being *extreme lightness and compactness*. A box of one dozen weighing but a few ounces, they may be shipped by mail at a slight additional cost for postage. They may be used in the ordinary plate-holders, with film-holder kits, or in the special film plate-holders made expressly for them. See page 24.

### PRICE-LIST, PER BOX OF ONE DOZEN.

Size.	Price.	Size.	Price.
3 1/4 x 4 1/4.....	\$0.65	5 x 7.....	\$1.65
4 x 5.....	.95	5 x 8.....	1.80
4 1/4 x 5 1/2.....	1.12	6 1/2 x 8 1/2.....	2.50
4 1/4 x 6 1/2.....	1.30	8 x 10.....	3.60

## Ready Sensitized Albumen Paper FOR PRINTING THE PICTURE.

This paper is of the *very finest quality*, giving the most brilliant prints and any desired tint in toning. It is highly sensitized and may be kept in good condition for many months before using. Carefully packed and protected with chemically prepared pads.

### PRICE-LIST.

Per box of two dozen sheets, 3½ x 4¼ .....	\$0.25
" " " " " 4 x 5 (one dozen, \$0.25).....	.40
" " " " " 5 x 7 (,, ,,.40).....	.70
" " " " " 5 x 8 .....	.75
" " " " " 6½ x 8½ .....	1.00
" " " " " 8 x 10 .....	1.50
" single sheet, " " " 18 x 22 .....	.35

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## Ferro-Prussiate Paper FOR BLUE PRINTS.

In making prints with this paper it is only necessary to print them in the sunlight and then soak in clear water, no chemicals whatever being employed, but instead of the usual color, the pictures are of a *rich, dark-blue* shade. The parts which have turned blue in printing remain so, and the balance is washed away in soaking, leaving a permanent blue-and-white picture.

The simplicity of this paper makes it very desirable in striking proofs from negatives, and an assortment of views by this process forms a unique and attractive collection.

### PRICE PER PACKAGE OF TWO DOZEN.

Size.	Price.
4 x 5 .....	\$0.25
5 x 7 .....	.45
5 x 8 .....	.50
6½ x 8½ .....	.60
8 x 10 .....	.80

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## Chemical Outfits.

To those who are purchasing their first Photographic Outfit and are unaware just what supplies and accessories to order with their camera, lens, and tripod, we would say that a careful perusal of the directions and catalogue will doubtless

## CHEMICAL OUTFITS.

supply them with the necessary information, but for the aid of such we offer the following suggestions:—

For **developing** with our ready mixed solutions all that will be necessary besides the dry plates is a bottle of Ready Mixed Developer, two developing pans or trays, and a quantity of hypo. for *fixing*. To these may be added a glass graduate, a camel's-hair brush, a small quantity of bromide ammonium and of alum. We do not include the ruby lantern, as many will prefer to construct their own dark-room light with the ruby fabric or orange paper.

For **printing** and **toning** will be necessary the sensitized paper, a printing board or frame, a bottle of Ready Mixed Toning Solution and hypo. With these as well as the developing outfit may be included such additional supplies as will suggest themselves to those not unfamiliar with photography, or after reading the treatise and the following list of chemicals and sundries. We list for the benefit of those who may have become accustomed to the use of other than the ready mixed developing and toning solutions, a number of the principal photographic chemicals: but the amateur will obtain the minimum of difficulty and the maximum of success by adhering to the use of the prepared solutions.

**"Ready Mixed" Developer.** Produces finest effects and printing qualities. Reliable and economical, being in *highly concentrated* form, made from the best chemicals. 4-oz. sealed bottle, 40 cents; 8-oz. sealed bottle, 65 cents.

**Eureka Developer.** In two solutions. Concentrated. Especially adapted to instantaneous work and *Detective exposures*. Price, two 8-oz. bottles, with directions for use, 75 cents.

**Hydroquinone Developer.** The new developing medium. Simple and cleanly. 8-oz. bottle, with directions, 40 cents.

**"Ready Mixed" Toning Solution,** concentrated, 4-oz. bottle, 50 cents; 8-oz. bottle, 75 cents.

Hypo., per lb. ....	\$0.07
Acid, pyrogallic, per oz. ....	.40
,, citric, per oz. ....	.12
,,     per lb. ....	.80
,, sulphuric, per oz. ....	.12
,,     per lb. ....	.50
Alum, per lb. ....	.15
Ammonia, liquid (concentrated), $\frac{1}{2}$ lb. bottles	.25
"     "     "     "     1     "     " ....	.40
Bromide ammonium, per oz. ....	.15
Carbonate potash, per lb. ....	.40
Chloride of gold, 15 grain bottle	.60
"     "     "     "     30     "     " ....	1.15
Iodide potassium, per oz. ....	.40
Mercury, bichloride, per oz. ....	.15

Oxalate potash, per lb.....	\$0.40
Protosulphite of iron, per lb. ....	.08
Soda, acetate, $\frac{1}{4}$ lb.....	.20
"    1 lb.....	.65
"    bicarbonate, per lb. ....	.12
"    carbonate, per lb.....	.10
"    sulphite (granular), per $\frac{1}{2}$ lb.....	.30
"    "    (crystals), per $\frac{1}{2}$ lb.....	.20

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## Photographic Sundries.

**Glass Graduates.** New model "Acme" graduate with flat base. *No flange or stem to get broken.* 4-oz., 35 cents; 8-oz., 50 cents; 16-oz., 80 cents.

	Japanned.	Pressed Rubber.	Hard Rubber.
<b>Developing Trays,</b> 4 x 5, each, \$0.20	\$0.28	\$0.65	
"    "    5 x 7, "	.25		.75
"    "    5 x 8, "	.25	.56	1.05
"    "    6 $\frac{1}{2}$ x 8 $\frac{1}{2}$ , "	.35	.72	1.15
"    "    8 x 10, "	.45	1.08	1.65
"    "    10 x 12, "	.55	1.56	2.75
"    "    11 x 14, "	.75		
<b>Porcelain Toning Trays,</b> 5 x 7"			\$0.45
"    "    5 x 8 (special)			.75
"    "    7 x 9			.66
"    "    8 x 10			1.00
"    "    10 x 12			1.66
"    "    11 x 14			2.64
<b>Cards for Mounting,</b> 4 x 5.....per dozen, \$0.15, per hundred, .75			
"    "    5 x 7....."	.20, ..,	..,	1.30
"    "    5 x 8....."	.20, ..,	..,	1.40
"    "    5 x 8 ex. heavy ..,	.25, ..,	..,	1.80
"    "    8 x 10....."	.35, ..,	..,	2.50
"    "    cabinet mounts ..,	.15, ..,	..,	1.00
"    "    "    gilt edge ..,	.20, ..,	..,	1.25
<b>Gossamer Focusing Cloths</b> .....			.50
<b>Excelsior Trimmer,</b> <i>the best made</i> .....			.50
<b>Camel's-hair Brushes,</b> 1 in. ....			.25
"    "    1 $\frac{1}{2}$ in. ....			.35
<b>Prepared Paste,</b> per jar.....			.25

## PHOTOGRAPHIC SUNDRIES.

Litmus Paper, per sheet.....	\$0.05
Ruby Fabric, per $\frac{1}{2}$ yard .....	.40
Scales for Measuring Grains.....	.75

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**Mitchell's Anti-cockling Mounting Solution.** Prints mounted with this solution will not bend, curl, or twist, and do not require burnishing. A perfect mounting paste. Price per bottle, 50 cents.

**Magnesium Flash Powder,** for instantaneous exposures at night. The latest novelty. The camera is focused by lamp or gas light on the person or group to be taken, the slide of holder and lens cap removed and a match applied to the powder in a tin dish or shovel. A brilliant, intensely white light is emitted sufficiently long for a quick plate to retain the scene, and astonishingly good pictures may be obtained. Price per box, with full directions, 50 cents.

**Canvas Carrying-Cases**

WITH LEATHER STRAP AND HANDLE.

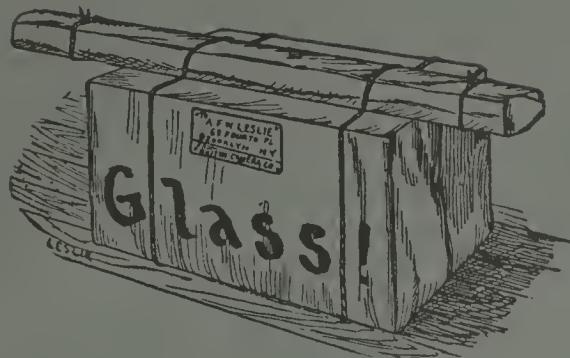
For 4 x 5 plain cameras .....	\$1.35
,, 5 x 7 " "	2.25
,, 5 x 8 " "	2.25
,, 8 x 10 " "	2.50
For 4 x 5 Reversible Back camera, ex. quality .....	2.25
,, 5 x 7 " " " "	2.50
,, 5 x 8 " " " "	2.50
,, 6 $\frac{1}{2}$ x 8 $\frac{1}{2}$ " " " "	2.75
,, 8 x 10 " " " "	3.25
,, 11 x 14 " " " "	4.00

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**Extra Parts.**

Owing to their multiplicity and variety we shall not attempt to list the separate parts of cameras and apparatus, but we will supply any of such that may be required unless impracticable at proportionate prices. It must always be *clearly specified* for exactly what *style* and *size* they are desired in ordering parts.

## SHIPMENTS AND TERMS.



The somewhat delicate construction and finish of photographic apparatus requires that it should be packed with the utmost care to avoid danger of breakage in transportation.

All of our goods are packed in the most skilful manner by experienced packers, the above being a good illustration of the appearance of one of our outfits ready for shipment; and out of many thousand cameras shipped to all parts of the world scarcely one has been received in bad order.

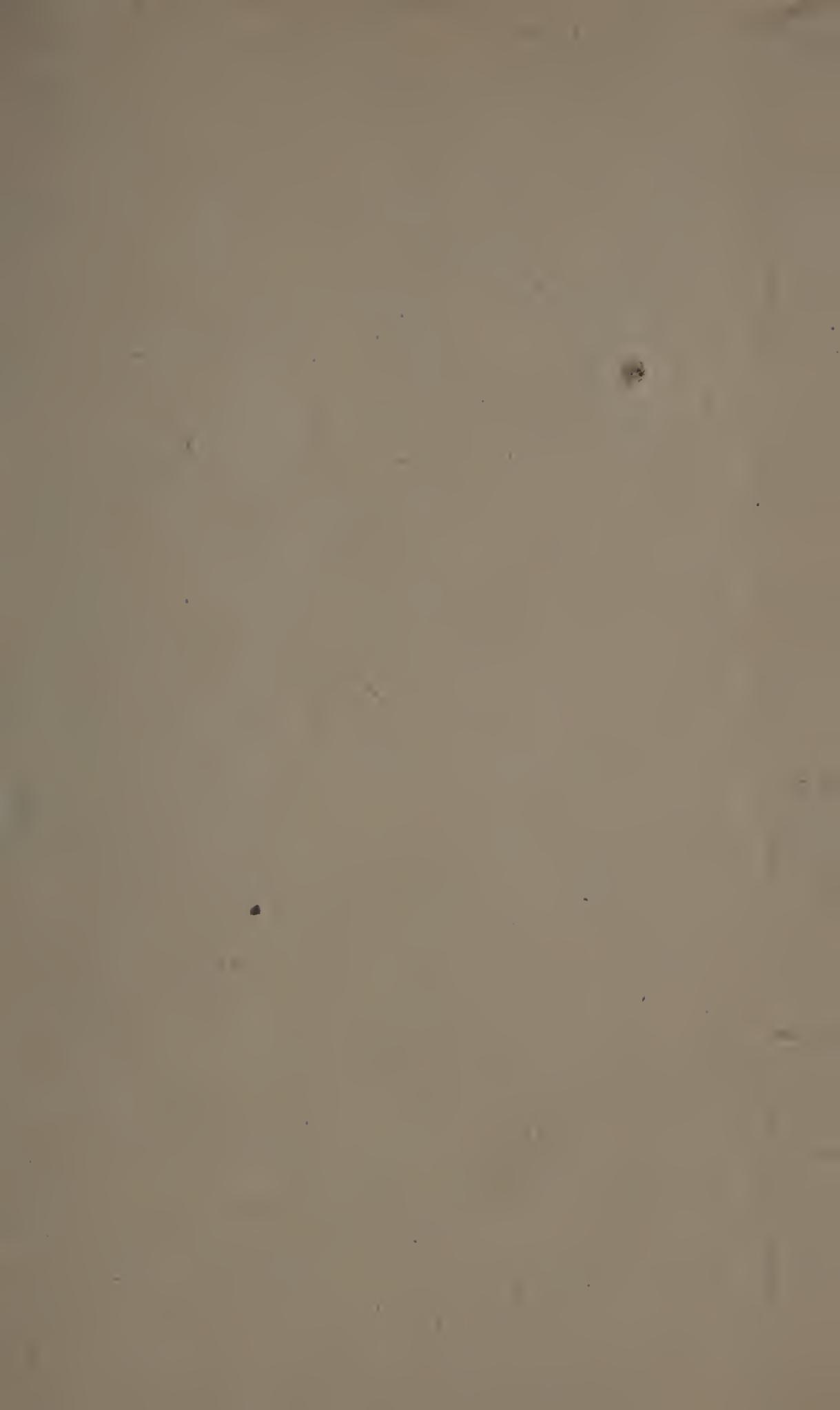
Small packages not containing *glass* may be sent by mail at 1 cent per ounce postage, or *registered* mail, 10 cents additional. All other goods will be shipped by express, unless in large quantity, and by the most direct route.

C. O. D. orders must always be accompanied by *one third of the amount in advance.*

Always specify in orders for cameras the exact size and style desired, and in ordering holders and supplies state the name and size of camera with which they are to be used.

When the post-office and express-office are at different places, *both* should be clearly stated in the order.





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